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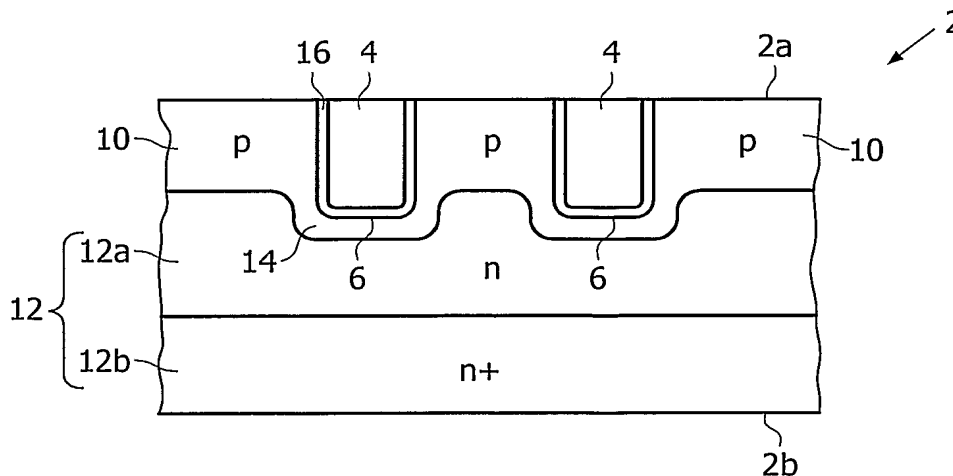
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(54) Title: TRENCH-GATE SEMICONDUCTOR DEVICES AND THE MANUFACTURE THEREOF



(57) Abstract: A vertical trench-gate semiconductor device wherein the trench-gates extend in stripes, the source regions extend transversely between the trenchgates in stripes, projection (20) of the source stripes across the trench-gates defines intermediate trench portions (22) between the projected source stripes, and mutually spaced regions (14,14') of the second conductivity type are provided immediately below the intermediate trench portions (22) which are connected to source potential. The spaced regions serve to selectively shield portions of the trench-gate from the drain region to suppress their contribution to Cgd and hence Qgd. In particular, they shield those portions of the trenchgate which do not contribute to the channel width of the device, without restricting the current path where a channel is formed.

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